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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WONG, LESLIE

ART UNIT PAPER NUMBER

2177

DATE MAILED: 05/13/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/848,982

Applicant(s)

DUNNING ET AL.

Examiner

Leslie Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Response to Amendment***

1. Receipt of Applicant's Amendment, filed 30 January 2003, is acknowledged.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-35 are rejected under 35 U.S.C. 102(b) as being anticipated by **Damashek** (U.S. Patent 5,418,951).

Regarding claims 1, 12, 23, and 34, **Damashek** teaches a computer-implemented method of text equivalencing from a string of characters 3 comprising:

- a). modifying the string of characters using a predetermined set of heuristics (col. 4, line 64 – col. 5, line 5; col. 8, line 64 col. 9, line 2);
- b). comparing the modified string with a known string of characters in order to locate a match (col. 4, lines 10-60);
- c). responsive to not finding a match, forming a plurality of sub-strings of characters from the string of characters (col. 3, lines 21-24; col. 4, lines 24-27); and

d). using an information retrieval technique on the sub-strings of characters to determine a known string of characters equivalent to the string of characters (col. 3, lines 22-31 and col. 4, lines 10-60).

Regarding claims 2, 13, 24, and 35, **Damashek** further teaches a step wherein the information retrieval technique further comprises:

- a). weighting the sub-strings (col. 5, lines 31);
- b). scoring the known string of characters (col. 8, lines 51-56); and
- c). retrieving information associated with the known string of characters with the highest score (col. 9, lines 64-66).

Regarding claims 3, 14, and 25, **Damashek** further teaches a step comprising, responsive to the highest score being greater than a first threshold, automatically accepting the known string of characters as an exact match (col. 8, lines 51-63).

Regarding claims 4, 15, and 26, **Damashek** further teaches a step comprising, responsive to the highest score being less than a second threshold and greater than a first threshold, presenting the known string of characters to a user for manual confirmation (col. 9, lines 12-14; col. 10. 45-49).

Regarding claims 5, 16, and 27, **Damashek** further teaches a step comprising, responsive to the highest score being less than a second threshold and greater than a

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third threshold, presenting the known string of characters to a user to select the equivalent string of characters (col. 9, lines 12-14; col. 10, 45-49).

Regarding claims 6, 17, and 28, **Damashek** further teaches a step wherein the sub-strings of characters are 3-grams (col. 3, lines 21-24; col. 4, lines 24-27).

Regarding claims 7, 18, and 29, **Damashek** further teaches a step wherein the string of characters is selected from the group consisting of a song title, a song artist, an album name, a book title, an author's name, a book publisher, a genetic sequence, and a computer program (col. 9, lines 35-37).

Regarding claims 8, 19, and 30, **Damashek** further teaches a step wherein the predetermined set of heuristics comprises removing whitespace from the string of characters (col. 4, line 64 – col. 5, line 5).

Regarding claims 9, 20, and 31, **Damashek** further teaches a step wherein the predetermined set of heuristics comprises removing a portion of the string of characters (col. 8, line 64 – col. 9, line 10).

Regarding claims 10, 21, and 32, **Damashek** further teaches a step wherein the predetermined set of heuristics comprises replacing a symbol in the string of characters with an alternate representation for the symbol (col. 4, line 64 – col. 5, line 5).

Regarding claims 11, 22, and 33, **Damashek** further teaches a step wherein storing an indication (i.e., similarity score) that the string of characters is the equivalent of the known string of characters (col. 8, lines 51-56).

### ***Response to Argument***

4. Applicant's arguments filed 30 January 2003 have been fully considered but they are not persuasive.

Applicants argue that Damashek does not teach or suggest a step of finding a match for a character string, or attempting to find a string that is equivalent to a query string. In response to the preceding arguments, the Examiner respectfully submits that Damashek teaches finding a match for a character string by comparing it with known text (i.e., reference documents) (col. 5, lines 10-11). The reference documents are parsed into sub-strings (n-grams) for each reference document. Weights are assigned to each unique sub-string (i.e., n-gram). The weight is determined by the relative frequency of occurrence of that n-gram in the reference document (col. 5, 24-30). The string that the system attempts to find a match for is also parsed into a list of unique n-grams and weight is also assigned to each n-gram. The string is then compared to each of the known strings by scoring the string against the known strings (i.e., reference document). The score for the string with respect to the known strings indicates the degree of similarity between the two strings<sup>6</sup> (col. 5, lines 54-60). Applicants also remark that Damashek's parsing text into n-grams for the purpose of categorizing documents

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according to language or topic and that Damashek does not form sub-string in response to not finding a match as claimed. It is submitted that Damashek uses the scores of the strings to determine the similarity between the two strings (i.e., a match is found) in order to place the unidentified string into its proper category. Therefore, the Examiner submits that Damashek teaches a step of finding a match for a character string as claimed.

Applicants further allege that there is no mention in Damashek any technique in forming sub-strings as claimed. Additionally, Damashek does not disclose forming sub-string in response to not finding a match. In response to the preceding arguments, the Examiner respectfully submits Damashek teaches forming sub-strings for both known text and string to be matched (i.e., unidentified string). Furthermore, Damashek discloses user assigns threshold scores in order to determine the similarity of the two strings (col. 5, lines 24-39 and lines 54-60 and et seq.). Applicant's invention ultimately has to carry out string decomposition in order to find a match. Damashek, on the other hand, forms sub-strings from the known text and the string to be matched regardless. Therefore, it is submitted that Damashek addresses the limitation as claimed.

Applicants also point out that Damashek's discussion of the limitation: "using an information retrieval technique on the sub-strings of characters to determine a known string of characters equivalent to the string of characters" is entirely unrelated to the

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above recited limitation. In response to the preceding arguments, the Examiner respectfully submits that it is totally relevant to the present invention as Applicant's Specification pages 7, paragraph 0021 to page 15, paragraph 0042 describes in detail such information retrieval technique.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie Wong whose telephone number is (703) 305-3018. The examiner can normally be reached on Monday to Friday 9:30am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (703) 305-9790. The fax phone numbers



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for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Leslie Wong  
Patent Examiner  
Art Unit 2177

lw  
May 9, 2003



JEAN R. HOMERE  
PRIMARY EXAMINER